

**e-Table 1. Diagnosis Codes for Identification of Patient Population (ICD-9-CM)**

Clinical Relevant Diagnoses		Top 25 Primary Diagnoses		Top 25 Secondary Diagnoses	
995.91	Sepsis	38.9	Septicemia NOS	486	Pneumonia, organism NOS
995.92	Severe Sepsis	486	Pneumonia, organism NOS	785.52	Symptom, shock, septic
785.52	Septic shock	38.42	Septicemia, E. coli	38.9	Septicemia NOS
481-482	Bacterial pneumonia	38	Septicemia, streptococcal	41.3	Klebsiella pneumoniae
958.1	embolism	38.49	Septicemia, gram-neg organism NEC	482.1	Pneumonia d/t Pseudomonas
958.4	traumatic shock	38.12	Septicemia, MRSA resis staph aureus	482.83	Pneumonia d/t gram-negative NEC
998	post-op shock	38.11	Septicemia, MSSA staph aureus	481	Pneumonia d/t pneumococcal
669.1	Obstetric shock	38.2	Septicemia, pneumococcal	482	Pneumonia d/t Klebsiella pneumoniae
693.5	Following abortion	38.8	Septicemia NEC	997.31	Ventilator associated pneumonia
995.4	Shock due to anesthesia	38.43	Septicemia, Pseudomonas	38.49	Septicemia, gram-neg organism NEC
639.5	Shock	38.4	Septicemia, gram-neg organism NOS	38.12	Septicemia, MRSA resis staph aureus
994.8	Electrocution	38.3	Septicemia, anaerobic	38	Septicemia, streptococcal
785.59	Other shock	38.19	Septicemia, staphylococcal NEC	38.42	Septicemia, E. coli
995.6	Anaphylaxis food	482.1	Pneumonia d/t Pseudomonas	38.11	Septicemia, MSSA staph aureus
		487	Influenza w/pneumonia	482.9	Pneumonia, bacterial NOS
		482.83	Pneumonia d/t gram-negative NEC	482.82	Pneumonia d/t Escherichia coli
		481	Pneumonia d/t pneumococcal	482.2	Pneumonia d/t Hemophilus influenzae
		38.1	Septicemia, staphylococcal NOS	487	Influenza w/pneumonia
		482.9	Pneumonia, bacterial NOS	415.12	Septic pulmonary embolism
		38.41	Septicemia, hemophilus influenzae	38.8	Septicemia NEC
		482	Pneumonia d/t Klebsiella pneumoniae	38.43	Septicemia, Pseudomonas
		480.9	Pneumonia d/t virus NOS	38.19	Septicemia, staphylococcal NEC
		136.3	Pneumocystosis	998.02	Shock, postoperative, septic
		483	Pneumonia d/t Mycoplasma pneumoniae	136.3	Pneumocystosis
		38.44	Septicemia, serratia	483	Pneumonia d/t Mycoplasma pneumoniae

**e-Table 2. Matched hospital characteristics**

		<b>1-2 PCT Tests within 1 Day Following ICU Admission</b>		<b>No PCT Test</b>		<b>P- value PCT vs. No PCT</b>	<b>Standardized Differences</b>
<b># of Discharges</b>		33,569		98,543			
<b># of Hospitals</b>		286		570			
		<b>N of Discharges</b>	<b>Percent</b>	<b>N of Discharges</b>	<b>Percent</b>	<b>P- Value</b>	
<b>Urban/ Rural</b>	Rural	3,668	10.93	10,695	10.85	0.708	0.002
	Urban	29,901	89.07	87,848	89.15		
<b>Teaching Status</b>	Non-teaching	20,585	61.32	60,308	61.20	0.692	0.003
	Teaching	12,984	38.68	38,235	38.80		
<b>Beds size</b>	<100	1,176	3.50	3,295	3.34	0.286	0.009
	100-199	3,562	10.61	10,341	10.49		0.004
	200-299	3,049	9.08	8,696	8.82		0.009
	300-499	13,531	40.31	40,009	40.60		0.006
	500+	12,251	36.50	36,202	36.74		0.005
<b>Census Division (n, %)</b>	East North Central	3,741	11.14	10,717	10.88	<0.001	0.009
	East South Central	1,733	5.16	4,995	5.07		0.004
	Middle Atlantic	1,299	3.87	4,322	4.39		0.026
	Mountain	623	1.86	1,712	1.74		0.009
	New England	830	2.47	2,249	2.28		0.012
	Pacific	4,957	14.77	14,637	14.85		0.002
	South Atlantic	15,242	45.41	45,129	45.80		0.008
	West North Central	1,601	4.77	4,853	4.92		0.007
	West South Central	3,543	10.55	9,929	10.08		0.016

**e-Table 3. Search terms for antibiotics used in the treatment of septic patients**

<b>Class</b>	<b>Generic/Brand</b>
<b>Quinolone Antibiotics</b>	
<i>First Generation</i>	
Flumequine	Flubactin
Nalidixic acid	NegGam, Wintomylon
Oxolinic acid	Uroxin
Piromidic acid	Panacid
Pipemidic acid	Dolcol
Rosoxacin	Eradacil
<i>Second Generation</i>	
Ciprofloxacin	Cipro, Cipro XR, Ciprobay, Ciproxin
Enoxacin	Enroxil, Penetrex
Lomefloxacin	Maxaquin
Nadifloxacin	Acuatim, Nadoxin, Nadixa
Norfloxacin	Lexinor, Noroxin, Quinabic, Janacin
Ofloxacin	Floxin, Oxaldin, Tarivid
Pefloxacin	Peflacin
Rufloxacin	Uroflox
<i>Third Generation</i>	
Balofloxacin	Baloxin
Gatifloxacin	Tequin, Zymar
Grepafloxacin	Raxar
Levofloxacin	Cravit, Levaquin
Moxifloxacin	Avelox, Vigamox
Pazufloxacin	Pasil, Pazucross
Sparfloxacin	Zagam
Temafloxacin	Omniflox
Tosufloxacin	Ozex, Tosacin

<b>Class</b>	<b>Generic/Brand</b>
<i>Fourth Generation</i>	
Besifloxacin	Besivance
Clinafloxacin	
Gemifloxacin	Factive
Sitafoxacin	Gracevit
Trovafoxacin	Trovan
Prulifloxacin	Quisnon
<b>Sulfonamides</b>	
Sulfamethizole	Thiosulfil Forte
Sulfamethoxazole	Gantanol, Urobak
Sulfisoxazole	Gantrisin
Trimethoprim-Sulfamethoxazole	Bactrim, Bactrim DS, Cotrim, Cotrim DS, Septra, Septra DS, Sulfatrim, Sulfatrim-DS

**Tetracycline  
Antibiotics**

Demeclocycline	Declomycin
Doxycycline	Doryx, Vibramycin
Minocycline	Dynacin, Minocin, Monodox
Oxytetracycline	Terramycin
Tetracycline	Achromycin
Glycylcyclines	
Tigecycline	Tygacil

**Other Antibiotics**

Chloramphenicol	Chloromycetin Flagyl, Helidac, Metizol, Metric 21, Neo-Metric, Noritate, Novonidazol
Metronidazole	
Tinidazole	Tindamax
Nitrofurantoin	Furadantin, Macrobid, Macrochantin
Glycopeptides	
Vancomycin	Vancocin
Teicoplanin	Targocid
Lipoglycopeptides	
Telavancin	Vibativ
Oxazolidinones	

Class	Generic/Brand
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**Other Antibiotics  
(cont.)**

Linezolid	Zyvox
Cycloserine 2	Seromycin
Rifamycins	
Rifampin	Rifadin
Rifabutin	Mycobutin
Rifapentine	Priftin
Polypeptides	
Bacitracin	Baciguent
Polymyxin B	
Tuberactinomycins	
Viomycin	
Capreomycin	
Lipopeptides	Daptomycin (Cubicin)
Fluoroquinolone	Gemifloxacin (Factive)
Lipoglycopeptides	Telavancin (Vibativ)
Cephalosporin (5th generation)	Ceftaroline (Teflaro)
Macrocyclics	Fidaxomicin (Difcid)

**e -Table 4.**

	<b>2014 AHA</b>		<b>2014 Premier</b>	
	<b>N</b>	<b>%</b>	<b>N</b>	<b>%</b>
All Facilities	6174	100.00%	591	100.00%
<b>Area</b>				
Midwest	1704	27.60%	136	23.01%
Northeast	804	13.02%	72	12.18%
South	2506	40.59%	284	48.05%
West	1160	18.79%	99	16.75%
Urban/Rural				
Rural	1176	19.05%	149	25.21%
Urban	4998	80.95%	442	74.79%
<b>Beds</b>				
0-99	3414	55.30%	138	23.35%
100-199	1241	20.10%	133	22.50%
200-299	630	10.20%	116	19.63%
300-499	578	9.36%	132	22.34%
500+	311	5.04%	72	12.18%
<b>Teaching Status</b>				
Non-Teaching	4025	65.19%	431	72.93%
Teaching <sup>1</sup>			160	27.07%
Major Teaching <sup>2</sup>	301	4.88%		
Minor Teaching <sup>3</sup>	1848	29.93%		

<sup>1</sup>Teaching hospital in Premier Healthcare Database: The hospital has a documented affiliation agreement with a medical school accredited by the Association of American Medical Colleges Liaison Committee on Medical Education. These organizations must sponsor, or participate significantly in, at least four approved, active residency programs. At least two of the approved residency programs should be in medicine, surgery, obstetrics/gynecology, pediatrics, family practice or psychiatry.

<sup>2</sup>Major teaching hospital in AHA: Member of the Council of Teaching Hospitals (COTH) of the Association of American Medical Colleges

<sup>3</sup>Minor teaching hospital in AHA: Hospitals that are one or more of the following: Participating site recognized for one or more Accreditation Council for Graduate Medical Education accredited programs, Medical school affiliation reported to the American Medical Association (AMA), Internship approved by American Osteopathic Association, or Residency approved by American Osteopathic Association.

**e-Figure 1. Flow Diagram of the Analytic Plan for the Premier Healthcare Database**

